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SUSAN Y. SOONG  
CLERK, U.S. DISTRICT COURT  
NORTHERN DISTRICT OF CALIFORNIA

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11 UNITED STATES DISTRICT COURT  
12 NORTHERN DISTRICT OF CALIFORNIA  
13 SAN FRANCISCO DIVISION

14 UNITED STATES OF AMERICA,

) CASE NO. CR 17-00278 JD

15 Plaintiff,

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17 ) UNITED STATES' SUPPLEMENTAL  
v. ) SENTENCING MEMORANDUM RE; LACK OF  
JUSTIN E. HUBBARD, ) SENTENCING DISPARITY AND  
18 ) RISK OF HARM  
Defendant.

19 ) Hon. James Donato  
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21 ) [UNDER SEAL]

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15 Plaintiff,

16 v.

17 JUSTIN E. HUBBARD,

18 Defendant.

) CASE NO. CR 17-00278 JD

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## INTRODUCTION

At the March 7, 2018, initial sentencing hearing on this matter, the parties discussed several issues relating to the appropriate sentence of defendant Justin Hubbard. At the conclusion of that hearing, the Court directed the parties to file supplemental briefing addressing: (1) the potential for unwarranted sentencing disparity between defendant Hubbard and previously-sentenced defendant Stephen Rolfe, and (2) issues of potential or actual harm caused by the defendant Hubbard's conduct.

As discussed below, the government does not believe that there is a significant risk of an unwarranted sentencing disparity since defendants Hubbard and Rolfe are not similarly situated. Moreover, Hubbard’s criminal misconduct caused both actual and potential harm, which should be reflected in his sentence.

## **FACTUAL BACKGROUND**

Stephen Rolfe, the defendant in related case CR 17-0123 JD, pleaded guilty pursuant to written agreement to a violation of 18 U.S.C. § 1519 – Destruction, Alteration, or Falsification of Records in Federal Investigations in connection with the falsifying of records relating to the remediation of radioactive waste at the Hunters Point Naval Shipyard (“HPNS”) in San Francisco, California. Rolfe’s plea included an agreement that Rolfe would cooperate with the United States government. At his sentencing, the government moved, pursuant to United States Sentencing Guidelines section 5K1.1, for a two-level downward departure and a sentence of 8 months. The Court granted the government’s motion and sentenced Rolfe to 8 months imprisonment.

Justin Hubbard, the defendant here, likewise pleaded guilty to a violation of 18 U.S.C. § 1519. Hubbard’s conduct was similar to Rolfe’s in that it related to the falsification of records relating to the remediation of radioactive waste at HPNS. However, Hubbard’s plea did not include an agreement that Hubbard would cooperate with the government—in large part because Hubbard insisted that he had no information about criminal conduct of other persons.

The parties appeared for sentencing on March 7, 2018. The government initially sought a sentence of 21 months, but after the Court ruled that a two-point enhancement under U.S.S.G. § 3B1.3

1 did not apply, now seeks a sentence at the high-end of the applicable guidelines range, 18 months. The  
 2 defendant is seeking a term of home confinement.

3 After a lengthy discussion, the Court directed the parties to file supplemental briefs addressing  
 4 the potential unwarranted sentencing disparity between defendants Hubbard and Rolfe. The Court  
 5 further indicated that the parties could address the issues of potential harm caused by defendant  
 6 Hubbard's conduct.

7 **ARGUMENT**

8 **A. There Is No Risk of an Unwarranted Sentencing Disparity Here Because Rolfe Received a  
 9 Sentence Reduction Under U.S.S.G. § 5K1.1, and Hubbard Is Not Entitled to Such a  
 Reduction**

10 Title 18 § 3553 provides the statutory framework for sentencing. Section 3553(a)(6) directs the  
 11 Court to consider "the need to avoid unwarranted sentencing disparities among defendants with similar  
 12 records who have been found guilty of similar conduct." It is essential to note that § 3553(a)(6) warns  
 13 against *unwarranted* sentencing disparities. (Emphasis added). Where, as here, one defendant has  
 14 provided substantial assistance to the government and another has not, the disparity between their  
 15 sentences is justified, and does not run afoul of § 3553(a)(6).

16 The Ninth Circuit addressed this exact issue in *United States v. Winters*, 278 Fed. Appx. 781,  
 17 2008 U.S. App. LEXIS 10812 (9th Cir. 2008). There, co-defendant Totten relied on § 3553(a)(6) in  
 18 arguing that sentencing reductions given to his co-defendants rendered his sentence unreasonable. *Id.* at  
 19 \*783. In rejecting this argument, the Court observed that "the goal of uniformity set forth in  
 20 § 3553(a)(6) is a goal of national uniformity based on the sentencing guidelines," and is "only one of  
 21 multiple factors that must be balanced by the district court." *Id.* Moreover, the Court noted that  
 22 "acceptance of responsibility and assistance to the prosecution are other relevant factors." *Id.*, citing  
 23 U.S.S.G. § 5K1.1. The court thus concluded that a "sentencing reduction based on an individual's  
 24 acceptance of responsibility and assistance to the prosecution does not create an 'unwarranted'  
 25 disparity." *Id.*

26 The Ninth Circuit reached a similar conclusion in *United States v. Laurienti*, 731 F.3d 967, 976  
 27 (9th Cir. 2013). There, defendant Laurienti was sentenced to 36 months imprisonment after trial. His  
 28

1 brother, John, who cooperated with the government, received 16 months sentence. *Id.* Laurienti argued  
 2 that this rendered his sentence unreasonable, particularly since he alleged that John was the  
 3 “mastermind” of the scheme at issue. *Id.* at 971, n.3. The Ninth Circuit rejected this argument, finding  
 4 that “a sentencing disparity based on cooperation is not unreasonable.” *Id.* at 976. The *Laurienti* court  
 5 relied on the Ninth Circuit’s earlier ruling in *United States v. Carter*, 560 F.3d 1107, 1121 (9th Cir.  
 6 2009), in which the court concluded that the disparity between the sentences of Carter and his  
 7 cooperating co-defendants was not unwarranted because the cooperating co-defendants were not  
 8 “similarly situated to Carter.”

9 Numerous other circuits have similarly found that the difference in sentences imposed between  
 10 cooperators and non-cooperators are not “unwarranted” disparities. *See, e.g., United States v. Duhon*,  
 11 541 F.3d 391, 397 (5th Cir. 2008) (finding that district court’s “consideration of the *warranted*  
 12 sentencing disparity between Duhon and his [cooperating] codefendant was improper” as a basis to  
 13 reduce Duhon’s sentence) (emphasis original); *United States v. Cain*, 487 F.3d 1108, 1114-15 (8th Cir.  
 14 2007) (rejecting sentencing disparity argument and holding that the defendant “is not similarly situated  
 15 to [co-defendants], both of whom cooperated and testified for the government”); *United States v. Meza*,  
 16 127 F.3d 545, 550 (7th Cir. 1997) (finding that a disparity between cooperating and non-cooperating  
 17 defendants was “justified by the Sentencing Commission in its creation of § 5K1.1, which produces  
 18 disparities by providing for a possible downward departure”); *United States v. Horn*, 946 F.2d 738, 746  
 19 (10th Cir. 1991) (finding that “substantial assistance reduction afforded codefendants reflects different  
 20 circumstances and does not confer an independent right on the defendant for an identical reduction”).

21 At the sentencing hearing, counsel for Hubbard argued that he could not avail himself of a  
 22 reduction under § 5K1.1 because Hubbard asserts that he is solely responsible for his actions, and thus  
 23 has no one against whom he can cooperate. However, this argument does not warrant a reduction in his  
 24 sentence. The plain language of § 5K1.1 requires that a court may depart downward upon “a motion  
 25 from the government stating that the defendant has provided substantial assistance in the investigation or  
 26 prosecution of another person who has committed an offense.” U.S.S.G. § 5K1.1 (emphasis added).  
 27 The application notes to that section amplify this requirement:

1       The sentencing reduction for assistance to authorities shall be considered independently of any  
 2       reduction for acceptance of responsibility. Substantial assistance is directed to the investigation  
 3       and prosecution of criminal activities by persons other than the defendant, while acceptance of  
 4       responsibility is directed to the defendant's affirmative recognition of responsibility for his own  
 5       conduct.

6       U.S.S.G. § 5K1.1, Application Note 2.

7       Here, the court has already determined that Hubbard is entitled to a two-point reduction for his  
 8       acceptance of responsibility under § 3E1.1(a), and has granted the government's motion for a further  
 9       one-point reduction for acceptance of responsibility under § 3E1.1(b). Hubbard's admission of his own  
 10      guilt and assertion that "the buck stops" with him is not sufficient to warrant any further departure under  
 11      § 5K1.1. Because defendant Rolfe earned reductions in his sentence under both § 3E1.1 and § 5K1.1, he  
 12      and Hubbard are not "similarly situated" for sentencing purposes.

13      **B. Hubbard's Criminal Misconduct Caused Actual Financial Harm to the U.S. Government,  
 14           and Potential Harm to the Health of Individuals**

15      The fraud engaged in by the defendant contributed to a massive and multi-layered loss to the  
 16      United States Navy. (*See Declaration of Department of the Navy, Base Realignment and Closure  
 17           Director, Laura Duchnak, attached as Exhibit A*). On a strictly financial level, the collective fraud  
 18      committed by Tetra Tech employees has led to the loss of hundreds of millions of dollars. *Id.* As stated  
 19      by Director.Duchnak:

20      "In sum, the Navy has expended \$272.8 M to date paying Tt EC for their work at HPNS,  
 21      identifying the fraud, and taking measures to prevent further fraud. Depending on the cost of  
 22      required re-work, this number will certainly rise to \$372.8 M and is likely to rise as high as  
 23      \$572.8 M. This amount of money would buy a new Littoral Combat ship. It is nearly half of the  
 24      Navy's total expenditures for *all* environmental clean-up activities at HPNS through fiscal year  
 25      2017 (\$991.1 M). This is money that could otherwise have been used by the Navy to train  
 26      sailors, build ships, purchase aircraft – in short, to perform the Navy's core mission of fighting  
 27      the country's wars, deterring aggression, and maintaining the freedom of the seas." *Id.* at 3  
 28      (emphasis in original).

29      The defendant's attempts to minimize the harm attributable to his own behavior is unpersuasive.  
 30      The potential and perceived severity attendant with exposure to radiation by the public has properly  
 31      mandated a complete reassessment of Tetra Tech's work by the Navy. Likening his misconduct to the  
 32      manipulation of candies in a jar is both misleading and callous. The Navy does not have the option of  
 33      minimizing the potential threat to human health, it must perform a thorough—and wildly expensive—

1 re-analysis by companies with employees that can be trusted to do their jobs.

2 Beyond its substantial financial loss, the fraud has also caused the loss of hundreds if not  
3 thousands of hours of manpower by the Navy. *Id.* at 2. As noted by Director Dunchak:

4 “In addition to responding to the media, correcting misinformation, and responding to the  
5 concerns of the public and politicians, the Navy’s Base Realignment and Closure (BRAC) Office  
6 created a special Review Team to assess the fraud allegations, determine what level of additional  
7 site investigation was needed, perform sampling, and then incorporate these findings into a new  
8 Work Plan for HPNS. These activities diverted significant numbers of BRAC employees from  
9 their normal duties, causing additional disruption to numerous other Navy projects across the  
10 country. This diversion of personnel and resources resulted in delays and increased costs for  
11 these other projects and resulted in constant stress on the Navy staff over a sustained period of  
12 time. The efforts of the Review Team and other similar efforts (including legal and contract  
13 dispute efforts, technical re-calculations, political briefings to the City and Congressional  
14 delegations, and constant communication up and down the Navy chain of Command), has cost  
15 Navy personnel hundreds if not thousands of hours of additional work.” *Id.*

16 Finally, the fraud has caused a basic loss of trust by the public in one of the esteemed pillars of  
17 American society, the U.S. military. As again noted by Director Dunchak:

18 “The fraud committed by Mr. Hubbard and others has undermined the taxpayer’s trust in the  
19 Navy as a good financial steward. Taxpayers trust that the Navy only asks for what it needs,  
20 knowing that there are many other important and vital uses for limited funds. The Navy invests  
21 an enormous amount of time, energy, and pride in building this trust, and because of that, the  
22 military is generally considered one of the most trusted institutions in America. But it only takes  
23 the misconduct of a few individuals to erode that essential trust - misconduct like Mr.  
24 Hubbard’s.” *Id.* at 3.

25 Beyond the financial, reputational, and resources loss to the Navy—and potentially much more  
26 important—is the possible impact on human health associated with the fraud in this case. As noted by  
27 EPA Health Physicist David J. Kappleman in his Declaration attached as Exhibit B, HPNS was declared  
28 a ‘Superfund’ Site on the National Priorities List (NPL) in 1989. *See Exhibit B ¶ 3.* The NPL is a list of  
Superfund Sites given national priority for cleanup based on their threat to human health or the  
environment. *Id.* Mr. Kappleman noted that HPNS housed the Naval Radiological Decontamination  
Laboratory from 1948 to 1969. *Id.* In addition, the North Pier at HPNS served as the decontamination  
site for heavily irradiated naval ships that participated in atomic bomb testing at the Bikini Atoll in 1946.

<sup>1</sup> *Id.* at ¶¶ 3 and 6.

The Superfund investigation combined with the Navy's historical assessment of the Site identified four radionuclide contaminants (among others) at HPNS that posed a threat to human health and the environment: radium-226, plutonium-239, strontium-90, and cesium-137. *Id.* at ¶ 4. Radium-226, plutonium-239, and strontium-90 have each been identified as human carcinogens. *Id.* at ¶ 5(a)-(c). Exposure to large amounts of cesium-137 can cause cellular damage in humans as well as acute radiation syndrome including nausea, vomiting, diarrhea, bleeding, coma, and death. *Id.* at ¶ 5(d).

Despite his protestations to the contrary, the fraud committed by the defendant at the North Pier did pose a risk to human health. After fraudulently claiming that the approximately 80 samples he collected from the Pier on May 31, 2012, were clean—thereby in effect declaring the area fit for human occupation—re-testing specifically proved him wrong. As noted by Health Physicist Kappelman:

2 “Re-sampling determined that excessive levels of radiation remained after fraudulently being  
3 deemed clean by Tetra Tech employees, including Justin Hubbard. One of the survey units  
4 deemed clean by Justin Hubbard, Survey Unit 1, required multiple additional survey sampling  
and two additional dirt removals before it finally met the release criteria for radium-226, that is 1  
pico curie per gram or less.” *Id.* at ¶ 7.

6       Lastly, a high school graduate with admittedly no special skill in making radiological  
7 assessments should not be allowed to dictate when a previously irradiated site is clear. The defendant's  
8 fraud was harmful on a variety of levels, this Court should sentence him to the upper end of the  
9 applicable guideline.

## **CONCLUSION**

For the reasons set forth above, as well as those set forth in the PSR, the government respectfully requests that the Court sentence the defendant to a term of 18 months of imprisonment, followed by 3

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1 years of supervised release, and impose a fine of \$10,000.

2  
3 Dated: March 21, 2018

ALEX G. TSE  
Acting United States Attorney

MATTHEW L. McCARTHY  
PHILIP J. KEARNEY  
Assistant United States Attorneys

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# **EXHIBIT A**



**DEPARTMENT OF THE NAVY**  
**BASE REALIGNMENT AND CLOSURE**  
**PROGRAM MANAGEMENT OFFICE**  
**33000 NIXIE WAY, BLDG 50 STE 207**  
**SAN DIEGO, CA 92147**

5820  
 Ser BPMO/003  
 March 15, 2018

The Honorable James Donato  
 United States District Court  
 Northern District of California  
 Federal Building and Courthouse  
 450 Golden Gate Avenue  
 San Francisco, California

Dear Judge Donato:

**SUBJECT: VICTIM IMPACT STATEMENT IN THE MATTER OF U. S. V. HUBBARD**

The Department of the Navy has been designated a crime victim under 18 U.S.C. § 3771 as a result of the fraud committed by Mr. Hubbard, a former employee of Tetra Tech EC Inc. (Tt EC), and others. The Navy contracted Tt EC to prepare planning documents, investigate radiological contamination, conduct remediation, dispose of radioactive waste, and document their activities to support closure of radiologically-impacted sites and buildings at Hunters Point Naval Shipyard (HPNS) from 2003 to 2014. These activities were necessary prior to the Navy turning HPNS over to the City of San Francisco for redevelopment. The fraud committed by Mr. Hubbard and other Tt EC employees has caused not only a substantial financial loss to the Navy, but harm to the Navy's reputation, and it has cost the Navy substantial resources and time. The purpose of this statement is to give the Court a sense of the magnitude of the negative impact of this fraudulent conduct and how it has made the accomplishment of both the Navy's and the City's goals more difficult. Because of the widespread and continuing harm that he has caused the Navy, we ask that you award Mr. Hubbard a substantial sentence.

While the fraud committed by Mr. Hubbard and others has caused the Navy concrete and measurable monetary loss (addressed below), this fraud has also caused significant harm to the Navy that is much more difficult to quantify - but very real. The fraud and uncertainty surrounding Tt EC's work at HPNS has caused a complete loss of trust in the Navy by the local community. The new residents at HPNS are understandably anxious for their safety, and this has required additional effort by the Navy and regulators to address these concerns. The transfer of the property to the City will be delayed by many years, and the Navy has had to address the ire and frustration of the Mayor's Office, the Supervisor's Office, and local Congressional staffs. The redevelopment of HPNS was supposed to revitalize the community and provide jobs and affordable housing; all of that is now on hold indefinitely as the Navy and the regulatory agencies have determined that Tt EC's work is unreliable. The frustrations of these local constituencies have been channeled into a strong activist element which has made the Navy's public meetings tense, aggressive and explosive.

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 March 15, 2018

The fraud committed by Mr. Hubbard and others has also led to negative national media attention. The effort to respond to this negative media attention has required increased staffing to answer questions, prepare for interviews, and conduct risk communication training – all of which pulled Navy staff away from their primary duties and caused collateral impacts to other Navy bases and projects.

In addition to responding to the media, correcting misinformation, and responding to the concerns of the public and politicians, the Navy's Base Realignment and Closure (BRAC) Office created a special Review Team to assess the fraud allegations, determine what level of additional site investigation was needed, perform sampling, and then incorporate these findings into a new Work Plan for HPNS. These activities diverted significant numbers of BRAC employees from their normal duties, causing additional disruption to numerous other Navy projects across the country. This diversion of personnel and resources resulted in delays and increased costs for these other projects and resulted in constant stress on the Navy staff over a sustained period of time. The efforts of the Review Team and other similar efforts (including legal and contract dispute efforts, technical re-calculations, political briefings to the City and Congressional delegations, and constant communication up and down the Navy chain of Command), has cost Navy personnel hundreds if not thousands of hours of additional work. The Navy estimates that the fraud committed by Mr. Hubbard and others has set back the planned transfer of HPNS property to the City by an approximate decade. This means not only lost development opportunities for the City and the local community, but continued cost to the Navy to hold and maintain the property.

The fraud has also caused a loss of confidence by the regulatory community (both EPA and California State regulators) regarding the Navy's radiological remediation program and the Navy's competence to implement it. The EPA has expressed to the Navy that they no longer have confidence in the work performed by Tt EC at HPNS, as well as at other Navy radiological sites including those located at Treasure Island and Alameda in the San Francisco Bay Area. The Navy now faces an uphill struggle to rehabilitate itself from this negative connotation in the regulatory community. It will take years to rebuild this credibility.

As I indicated above, the negative fiscal impact to the Navy of the fraud committed by Mr. Hubbard and others at HPNS is consequential, and continues to be assessed. The Navy awarded sixteen contract task orders to address radiological work at HPNS to Tt EC. To date, the Navy has paid Tt EC \$261.8M for work performed at HPNS. Due to the uncovered fraud, all of this work has been called into question and may need to be re-performed. After discovering evidence of Tt EC data falsification/manipulation, and becoming aware of allegations from former Tt EC employees/subcontractors, the Navy hired an independent contractor (Battelle) to provide daily onsite radiological quality assurance for all Navy contractors performing radiological work at HPNS. This cost approximately \$2.2M. The Navy also hired CH2MHill to re-evaluate the work performed and documented by Tt EC at HPNS. CH2MHill reviewed Tt EC's radiological

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database for buildings and soil sites for falsification/manipulation using a variety of statistical and logic tests. This analysis provided evidence of previously-undiscovered data falsification and manipulation, which prompted the Navy to begin preparing work plans for an independent analysis of the worksite. The total cost for the database evaluation, work plan preparation, and preliminary field work is approximately \$8.8M. The Navy is currently working with federal and state regulatory agencies to determine the extent of rework that will be necessary at HPNS in order for the Navy to obtain the required “free release” from the regulatory agencies to turn the property over to the City. The EPA has indicated that it would require all work to be re-performed as originally contracted. However, these discussions are not final. The Navy’s best estimates for required re-work costs currently range from \$100M to \$300M.

In sum, the Navy has expended \$272.8 M to date paying Tt EC for their work at HPNS, identifying the fraud, and taking measures to prevent further fraud. Depending on the cost of required re-work, this number will certainly rise to \$372.8 M and is likely to rise as high as \$572.8 M. This amount of money would buy a new Littoral Combat ship. It is nearly half of the Navy’s total expenditures for *all* environmental clean-up activities at HPNS through fiscal year 2017 (\$991.1 M). This is money that could otherwise have been used by the Navy to train sailors, build ships, purchase aircraft, – in short, to perform the Navy’s core mission of fighting the country’s wars, deterring aggression, and maintaining the freedom of the seas.

The fraud committed by Mr. Hubbard and others has undermined the taxpayer’s trust in the Navy as a good financial steward. Taxpayers trust that the Navy only asks for what it needs, knowing that there are many other important and vital uses for limited funds. The Navy invests an enormous amount of time, energy, and pride in building this trust, and because of that, the military is generally considered one of the most trusted institutions in America. But it only takes the misconduct of a few individuals to erode that essential trust - misconduct like Mr. Hubbard’s.

Mr. Hubbard’s actions had far-reaching consequences for the United States, its employees, the City of San Francisco, the local residents, and the taxpayers. The Navy therefore respectfully requests that the Court consider a severe sentence for Mr. Hubbard that is commensurate with the adverse impacts of his fraud upon the Navy.

Sincerely,

  
 LAURA DUCHNAK  
 Director

# **EXHIBIT B**

IN THE UNITED STATES DISTRICT COURT  
FOR THE NORTHERN DISTRICT OF CALIFORNIA  
SAN FRANCISCO DIVISION

**UNITED STATES OF AMERICA,**

**Plaintiff,**

Case No. CR 17-278 JD

V.

JUSTIN E. HUBBARD,

**Defendant.**

DECLARATION OF DAVID J. KAPPELMAN  
IN SUPPORT OF GOVERNMENT'S  
SUPPLEMENTAL SENTENCING  
MEMORANDUM RE: LACK OF  
SENTENCING DISPARITY AND RISK OF  
HARM

Date: March 21, 2018

Time: 10:30am

1. I make this declaration in support of the Government's Memorandum Regarding Sentencing Disparity.

2. I am a health physicist with the United States Environmental Protection Agency ("EPA"). I have been so employed since March 1995. I have a Bachelor of Science degree in Electrical and Electronic Engineering from the California State University of Sacramento. I have worked as a Nuclear Engineer or Health Physicist since March 1992. I have training and experience in radiological detection and quantification. I have performed Gamma Spectroscopy on environmental matrices (soil, water, air, etc.) and on performance evaluation samples while employed by the EPA National Air and Radiation Environmental Laboratory and was the Deputy Team Commander of the Radiological Emergency Response Team responding to radiation emergencies nationwide. I currently work for the EPA Environmental Response Team assisting EPA regions with Superfund radiological emergency response, site investigations, cleanups, and oversight nationwide. I have been assisting EPA Region 9 with reviewing prior documentation and new U.S. Navy work plans to verify that the Navy's radiological

1 cleanup meets the release criteria specified in the EPA Record of Decision for Hunters Point Naval  
2 Shipyard.

3       3.      Hunters Point Naval Shipyard, (HPNS), is a Superfund site located in southeastern San  
4 Francisco, California, and was first listed on the National Priorities List (NPL) in 1989. The NPL is a  
5 list of Superfund Sites that are given national priority for cleanup, based upon an assessment of the level  
6 of threat posed to human health or the environment from known or threatened releases of hazardous  
7 substances or pollutants at the site. The HPNS is currently owned by the U.S. Navy, which is the lead  
8 agency responsible for the cleanup. In addition to serving as a repair facility for the U.S. Navy, the  
9 HPNS Superfund Site was the location for the Naval Radiological Defense Laboratory (NRDL),  
10 operated by the Navy, from 1948 to 1969. The work at NRDL included radiological decontamination of  
11 ships exposed to atomic weapons testing as well as research and experiments on radiological  
12 decontamination and the effect of radiation on living organisms and materials.

13       4.      The Superfund investigation and cleanup of contamination at HPNS is a multi-phase  
14 project that has been on-going for more than 20 years. After a comprehensive historical assessment, the  
15 Navy identified 84 areas that either were contaminated or had the potential to be contaminated by  
16 radiological materials. The radionuclide contaminants at the Site that pose a threat to human health and  
17 the environment include, among others, radium-226, plutonium-239, strontium-90, and cesium-137.  
18 The Navy addressed each area through a time critical removal action to immediately identify and  
19 remove the radioactive contamination in soil, debris, and buildings base-wide. Tetra Tech, EC Inc.  
20 (TtEC) was the contractor hired by the Navy to perform this portion of the cleanup. TtEC provided  
21 radiological investigation and remediation services to the Navy at Hunters Point Naval Shipyard from  
22 2003 to 2014.

23       5.      The Agency for Toxic Substances and Disease Registry (ATSDR) provides the following  
24 information on radium-226, plutonium-239, strontium-90, and cesium 137, the radionuclides of concern:

25           a. Radium-226 is one of the two main isotopes of radium found in the environment. Radium is a  
26 radioactive substance formed from the breakdown of uranium and thorium. Radium has been shown to  
27 cause effects on the blood (anemia) and eyes (cataracts). It also has been shown to affect the teeth,

1 causing an increase in broken teeth and cavities. Exposure to high levels of radium results in an  
2 increased incidence of bone, liver, and breast cancer. The EPA and the National Academy of Sciences,  
3 Committee on Biological Effects of Ionizing Radiation, have stated that radium is a known human  
4 carcinogen.

5 b. Plutonium is a radioactive material that is produced in nuclear reactors; only trace amounts  
6 occur naturally. The most common plutonium isotope is plutonium-239. The main health effect from  
7 exposure to plutonium is cancer which may occur years after exposure. The types of cancers most likely  
8 to develop are cancers of the lung, bones, and liver. The Department of Health and Human Services  
9 (DHHS), International Agency for Research on Cancer (IARC), and the EPA's Office of Air and  
10 Radiation (OAR) consider plutonium to be a human carcinogen.

11 c. Strontium-90, a radioactive isotope of strontium, is formed in nuclear reactors or during the  
12 explosion of nuclear weapons. Radioactive strontium generates beta particles as it decays. Exposure to  
13 stable or radioactive strontium occurs from ingesting contaminated food or drinking water or breathing  
14 contaminated air. High levels of radioactive strontium can cause anemia or cancer. The International  
15 Agency for Research on Cancer (IARC) has determined that radioactive strontium is a human  
16 carcinogen.

17 d. Two radioactive forms of cesium, including cesium-137 are produced by nuclear explosions  
18 or the breakdown of uranium in fuel elements. Cesium binds strongly to moist soils and does not travel  
19 far below the surface of the soil. One can be exposed to radioactive cesium by eating food that was  
20 grown in contaminated soil, or by coming near a source of radioactive cesium. Exposure to large  
21 amounts of radioactive cesium damages cells from the radiation. Acute radiation syndrome can occur,  
22 which includes nausea, vomiting, diarrhea, bleeding, coma, and even death in cases of very high  
23 exposures.

24 6. During the relevant period, Justin Hubbard and Stephen Rolfe were two Tetra Tech  
25 Radiological Task Supervisors who oversaw all the field sampling necessary to determine the scope and  
26 extent of radiological contamination under the Navy's and Tetra Tech's work plans. Justin Hubbard was  
27 responsible for overseeing sampling at numerous locations, including the North Pier. Historically, Berth  
28

1 6, 7, 8, and 9 at the North Pier were used for berthing ships associated with radiological activities,  
2 including Operation Crossroads, NRDL experimental and waste disposal barges. Operation Crossroad  
3 ships were contaminated by radioactivity during atomic bomb testing at the Bikini Atoll in 1946.  
4 Hundreds of ships became contaminated, the most heavily impacted of which were sent to HPNS for  
5 decontamination.

6 7. Justin Hubbard admitted to falsifying samples taken at the North Pier on May 31, 2012,  
7 from four separate survey units. The total number of samples falsified from these four survey units was  
8 approximately 80. These were samples taken for the final survey, meaning, if the sample dirt passed the  
9 standard for release, the area was deemed "clean" freeing it up for eventual release by the Navy to  
10 civilian authorities. It was only the action of the Navy catching the falsification that caused the areas to  
11 be re-sampled. Re-sampling determined that excessive levels of radiation remained after fraudulently  
12 being deemed clean by Tetra Tech employees, including Justin Hubbard. One of the survey units  
13 deemed clean by Justin Hubbard, Survey Unit 1, required multiple additional survey sampling and two  
14 additional dirt removals before it finally met the release criteria for radium-226, that is 1 pico curie per  
15 gram or less.

16 8. Because of the possible adverse health effects from ionizing radiation and the long decay  
17 periods (half-lives) for many radionuclides, removal and off-site disposal is considered the most  
18 effective option for most of the radioactive contaminants found at HPNS. For example, the half-life of  
19 radium-226, the radionuclide left behind by Mr. Hubbard on the North Pier is 1,600 years. Physical  
20 removal of radioactive materials ensures that the potential for diffuse radioactivity is reduced to levels  
21 that meet or are below clean up goals.

22 DATED: March 21, 2018



23 DAVID J. KAPPELMAN  
24 Health Physicist  
25 United States Environmental Protection Agency  
26  
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28